

First record of a species of Polyplacophora in the Italian Oligocene

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ABSTRACT

No Oligocene chiton species have been known from Italy, but a few valves of a *Stenoplax* species have been found in the Case Soghe beds, near Vicenza, South Veneto, Northern Italy. This species is consistently different from the other fossil *Stenoplax* species known and therefore described as new. The holotype is deposited in the collections of the Malacological Laboratory of Bologna University.

RIASSUNTO

Viene descritta una nuova specie oligocenica (*Stenoplax veneta*) proveniente da Case Soghe (Colli Berici, Vicenza), localita' gia' studiata da diversi Autori, ma senza che siano stati rinvenuti Polyplacophora. In tutto sono state reperite 4 piastre (una anteriore, incompleta, e 3 posteriori). L'olotipo (una piastra VIII) e' depositato presso il Laboratorio di Malacologia dell'Universita' di Bologna.

INTRODUCTION

A large number of Tertiary chiton species have been described from Italy (Sacco, 1897; Malatesta, 1962; Laghi, 1977; Dell'Angelo & Palazzi, 1989), but none from the Paleogene. This is undoubtedly due to the scarce number of fossiliferous strata apt to preserve tiny or fragile molluscs; many of the Italian paleogenic malacofaunas originate from pyroclastic beds where only thicker shells are preserved, often only as casts. This situation motivated us to undertake research in the few beds known from the literature to contain smaller malacofaunal elements. Our efforts have produced the finding of a single chiton species, new to science, described below.

ORIGIN OF THE MATERIAL

The Oligocene outcrop of Case Soghe in the Colli Berici (near M. Lungo, Arcugnano, Vicenza province, northern Italy) was first discovered and described by Rossi (1962); the local molluscan faunula was later studied in detail by Accorsi Benini (1971; 1974). The samples were collected by these authors and by us in a small exposure of brownish yellow silty sandstone capping, in stratigraphic unconformity, a "pietra serena" quarry near Case Soghe.

The malacofauna has been estimated by Accorsi Benini (1971; 1974) to be pertaining to the upper fraction of Middle Oligocene (Upper Rupelian), so being

more closely related to "classic" France Oligocene mollusk faunas than to German ones (mostly Chattian in age).

Shells are not abundant in the strata sampled, indicating that the situation has changed from the first report thirty years ago. This must largely be due to inconscient local fossil collectors that, in search of the few and scattered big species present (like *Strombus*, *Ampullina* etc.), dig heavily and reduce both the extent and the intelligibility of the exposure. The few shells we have obtained sieving the sandstone *in situ* and subsequently examining the residue under a binocular microscope are, in general, in far better condition than elsewhere in similarly aged Veneto exposures; the finer details of the sculpture are also sometimes preserved, but this is quite rare and more commonly they are scantily visible.

Stenoplax veneta sp.nov.

Figures 1-3

Holotype

One tail valve (deposited in the collections of the Malacological Laboratory of Bologna University, registration number 010301) in a good state of preservation, but with the tegmentum sculpture somewhat eroded, 3.1 x 2.4 mm (fig. 1)

Paratypes

One incomplete head valve and two tail valves (deposited in B. Dell'Angelo collection, registration number 3039). Of the three anal valves found, the best preserved one shows a beaded sculpture of small granules. To avoid damage to this valve we have photographed (fig. 1) and designated as the holotype a second plate, more worn but still well recognizable. The third plate is very worn.

Diagnosis

Tail valve very depressed, with inconspicuous subcentral mucro. Tegmentum with a beaded sculpture of small granules and concentric lines of growth well marked. Slit formula: 12?/?/12.

Species description

Head valve probably semicircular in outline (our fragment is about 1/2 of the plate). Tegmentum finely beaded by small granules that, in shape and texture, resemble those of *Lepidochitona cinerea* (Linnaeus, 1767), being slightly smaller in size (fig. 2). The fragment studied bears 6-7 rather large and irregular insertion teeth; the total number was presumably a dozen.

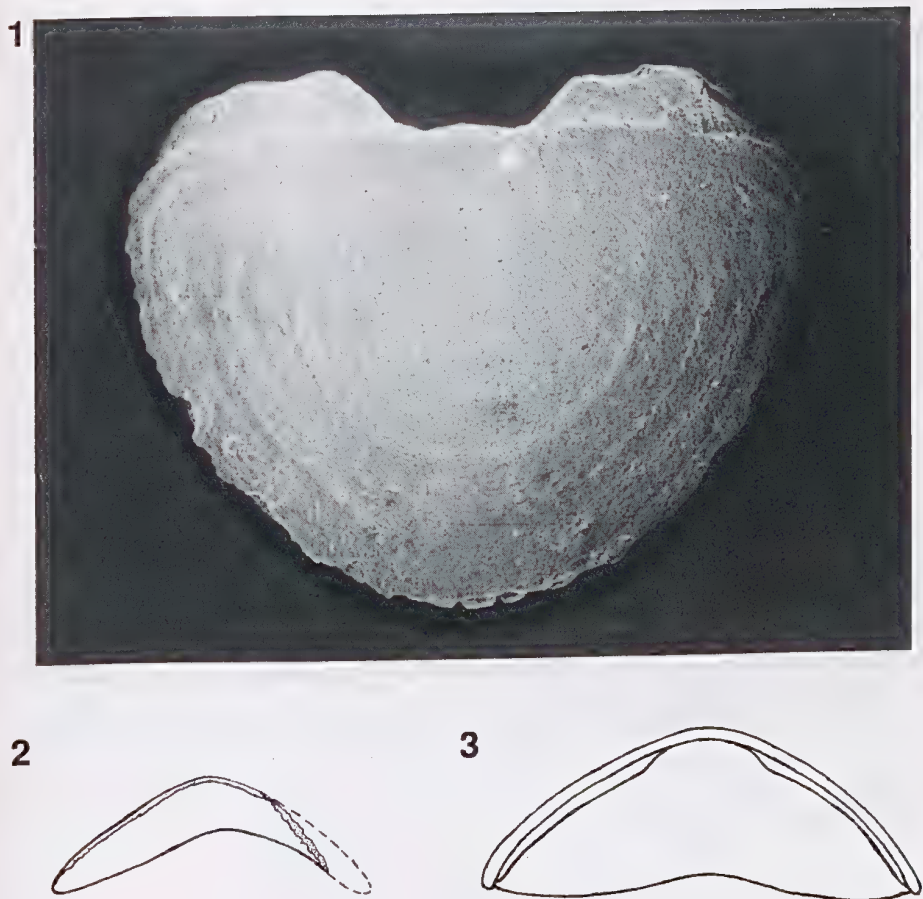
Tail valve (fig. 1) semi-elliptical in outline, very depressed (fig. 3), anterior margin quite straight. Mucro subcentral, not elevated. Tegmentum with the same uniformly granulate sculpture of plate 1. Marked concentric lines of growth are visible. The articulamentum is prolonged into the two apophyses which continue the regular profile of the valve without a break, and which are separated by a wide sinus. Teeth large but not extending outwards the tegmentum profile, numbering 12, wider toward the upper margin.

Etymology

Venetus, latin adjective, meaning: "of Veneto".

Distribution

Case Soghe, Vicenza, northern Italy. Oligocene (Upper Rupelian).



Figures 1-3. *Stenoplax veneta* n.sp. 1. Holotype, tail valve, 3.1 x 2.4 mm, SEM photography. Malacological Laboratory of Bologna University, registration number 010301. 2. Paratype, head valve, 2.8 x 1.2 mm. 3. Paratype, tail valve, 3.7 x 3 mm, profile.

Comparison with other species

Twenty-three species of chitons have been described from the Oligocene (Van Belle, 1981, revised 1984): 14 from Europe (Germany, France and England), eight from Australia and New Zealand and one from Canada, none of these belonging to *Stenoplax*. The only fossil *Stenoplax* species described to date are *S. selseiensis* Wrigley, 1943 and *S. anglica* Wrigley, 1943, both based on a single posterior plate and coming from the same Eocene locality (Medmery Farm, Selsey, England). Both of Wrigley's species are practically smooth, while *S. veneta* bears distinct granules. Moreover, *S. selseiensis* is much longer, and the anterior margin of *S. anglica* is distinctly rounded, giving to the plate a trapezoidal appearance.

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